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No. _____

Supreme Court, U.S.
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IN THE

Supreme Court of the United States

OCTOBER TERM, 1992

ACME RESIN CORPORATION,

Petitioner,

v.

ASHLAND OIL, INC.,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Of Counsel:

KENNETH P. VAN WYCK
BORDEN, INC.
180 East Broad Street
Columbus, Ohio 43215
(614) 225-3369

KENNETH C. BASS, III*
FRANK E. ROBBINS
VENABLE, BAETJER, HOWARD & CIVILETTI
1201 New York Avenue, N.W.
Suite 1100
Washington, D.C. 20005
(202) 962-4800
Counsel for Petitioner

**Counsel of Record*

July, 1992

PRESS OF BYRON S. ADAMS, WASHINGTON, D.C. (202) 347-8203

QUESTIONS PRESENTED

1. Did the Court of Appeals for the Federal Circuit fail properly to apply the clear precedents of this Court when it affirmed a summary judgment on a disputed factual issue while noting that the District Court's conclusion was not "clearly erroneous?"

2. Did the Court of Appeals properly construe the "best mode" requirement of 35 U.S.C. § 112, a provision that has not been, but should be, construed by this Court?

LIST OF PARTIES

The parties to the proceedings below were the Petitioner, Acme Resin Corporation and the Respondent, Ashland Oil, Inc. The petition is filed on behalf of a corporation which is a wholly-owned subsidiary of Borden, Inc. Petitioner has no subsidiaries, affiliates or shareholders other than Borden. A list of the affiliates of Borden was attached as Exhibit A to petitioner's Application for an Extension of Time to file this petition.

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IN THE

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No. _____

ACME RESIN CORPORATION,

Petitioner,

v.

ASHLAND OIL, INC.,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Petitioner Acme Resin Corporation respectfully prays that a writ of certiorari issue to review the judgment and opinion of the Court of Appeals for the Federal Circuit entered in the above-entitled proceeding on January 30, 1992.

OPINIONS BELOW

The opinion of the United States District Court for the Southern District of Ohio, Eastern Division (Holschuh, J.) is unreported and is reprinted in the appendix hereto, p. 3a.

The opinion of the Court of Appeals for the Federal Circuit is also unreported and is reprinted in the appendix hereto, p. 26a.

JURISDICTION

Jurisdiction in the trial court was founded on 28 U.S.C. § 1338. Summary judgment against petitioner on its claim of patent infringement was entered on March 15, 1991. See p. 1a, *infra*.

On appeal the Court of Appeals affirmed the entry of summary judgment. See p. 25a, *infra*. The judgment and opinion of the Court of Appeals was entered on January 30, 1992. *Id.* A timely petition for rehearing, with a suggestion for rehearing *en banc*, was denied on March 17, 1992. See p. 35a, *infra*. The suggestion for rehearing *en banc* was separately denied on April 22, 1992. See p. 36a, *infra*. The time for filing this petition was extended by the Chief Justice to and until July 15, 1992, by order entered May 26, 1992, in response to a timely application for such an extension. Jurisdiction in this Court is founded on 28 U.S.C. § 1254(1).

STATUTE INVOLVED

This case involves the interpretation of the "best mode" provision of the patent law which appears in 35 U.S.C. § 112, first paragraph:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

STATEMENT OF THE CASE

This patent litigation began when petitioner Acme Resin Corporation filed an infringement action against Ashland Oil, Inc. arising out of Acme's patent No. 4,436,881 which covered a unique foundry resin composition. The patented invention is used in the foundry industry to form casting molds in the "cold box process." In that process sand is mixed with two chemical resins that react to form a binder to hold the sand in the desired shape. The two resins are a polyhydroxy component (the "Part 1" resin) and a polyisocyanate component (the "Part 2" resin). The binder is mixed shortly prior to its use and has a definite "bench life;" after mixing, the binder components react, harden and eventually become unusable, similar to the hardening of epoxy glue. The Acme invention was the addition of a third component, an organic phosphorus compound, to the Part 2 resin in order to extend the bench life of the binder after mixing.

Defendant Ashland had obtained some of the Acme Part 2 resin and "reverse engineered" the sample to learn that Acme used biphenylphosponic dichloride ("BPOD") as the additive that lengthened bench life. Ashland used BPOD in its own activities until this infringement action was filed and thereafter shifted its use to dichlorophenyl phosphate ("MPCP") which Acme contends is a continued infringement under the doctrine of equivalents.

The trial court denied Ashland's motions for summary judgment on the infringement and equivalence issues, determining those issues raised genuine factual disputes precluding summary adjudication. The trial court thereafter granted summary judgment against

Acme, finding that the patent in issue was invalid because the inventor had failed to disclose the "best mode contemplated" by him for practicing the invention. In the trial court Acme had opposed Ashland's summary judgment motion both on the grounds that "best mode" was a factual issue not susceptible to summary resolution and that Ashland's attack was not based on a proper construction of 35 U.S.C. § 112 which requires the inventor to "set forth [in the patent application] the best mode contemplated by the inventor of carrying out his invention."

Relying entirely on an affidavit, depositions and documents, the district court concluded that Robert A. Laitar, the inventor, actually knew when the patent application was filed that the best combination of ingredients for extending bench life was BPOD, a specific Part 2 polyisocyanate manufactured by BASF, a German company, and any of several Part 1 resins. The record was devoid of any direct statements by the inventor as to his "state of mind" or his personal opinion of the "best mode" of practicing the invention. The record did contain certain research memoranda authored by Laitar as well as his affidavit and deposition. None of these materials, however, contained a direct statement by him of what he regarded as the 'best mode" of practicing the invention. Based on these materials, the trial court determined there was no genuine dispute as to basic facts and it then decided, in what can best be described as a process of deciding a dispute over an "inferred fact," that Mr. Laitar "knew that the BASF [Part 2] polyisocyanate was the best for use in his invention." (Pet. App. at 22a) Having made this essential factual finding, the district court then concluded that the patent

application failed to disclose that the best mode contemplated by the inventor was use of the BASF resin and therefore the resulting patent was invalid.

On appeal Acme argued both that the "best mode" issue was a factual one not subject to summary judgment, and that the trial court erred in its application of the relevant statutory provision. The Court of Appeals, in a decision authored by Judge Michel, rejected both arguments and affirmed the trial court's decision that the patent was invalid. In reaching this conclusion, the Court of Appeals erroneously stated that "the inventor's state of mind was contemporaneously reduced to writing." (Pet. App. at 33a) The panel went on to state that Acme had not shown the district court's finding of concealment "to be clearly erroneous," thus applying the appellate standard for review of factual findings of a trial court under Rule 52 to this appeal of a summary judgment decision rendered under Rule 56.

REASONS FOR GRANTING THE WRIT

I. The Inventor's "State of Mind" Was a Disputed Factual Issue Improperly Resolved by Both the Trial and Appellate Courts as a Matter of Law In The Context of a Summary Judgment

In deciding this case, both the trial court and the Court of Appeals correctly quoted from the applicable decisions of this Court that set forth the rules for deciding motions for summary judgment, but both courts, we submit, misapplied these decisions and misunderstood the sometimes confusing distinction between undisputed "basic facts" and disputed "inferred facts." Under the precedents of the Federal Circuit, "[c]ompliance with the best mode requirement is a

question of fact, and invalidity for failure of compliance requires proof by clear and convincing evidence that the inventor *knew of and concealed* a better mode of carrying out the invention than was set forth in the specification." *Scripps Clinic & Research Fdn. v. Genentech, Inc.*, 927 F.2d 1565, 1578 (Fed. Cir. 1991) (emphasis added).

The established law in the Federal Circuit is clear—"best mode" determinations raise factual issues and invalidity can be established only by "clear and convincing" evidence. As this Court decided in *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986), when a federal court considers a motion for summary judgment, it must look at the evidence in light of the standard of proof that would be imposed at trial if the issue were submitted to the fact-finder. Thus in this case a judgment of invalidity could be entered only if a jury would, as a matter of law, *have to find*, on "clear and convincing evidence", that the inventor both "knew of and concealed a better mode of carrying out the invention that was set forth in the specification." Petitioner submits that both the District Court and the Court of Appeals failed to appreciate the interplay of the heightened evidentiary standard with the evidence of record in this case, and that failure caused the errors in judgment below.

As stated by the Court of Appeals, the only evidence relied upon in affirming the summary judgment was the laboratory notes, intracompany memos, deposition and affidavit of the inventor. A brief review of the specific evidence relied upon will demonstrate the error in the legal conclusions reached.

The material undisputed facts relied upon below were:

> 1. In a December 2, 1982 lab report, the inventor stated that "Acme Flow formulations made from [the BASF] polymeric isocyanate have better bench life . . . than those made from lower acidity polymerics." (Pet. App. at 30a)
>
> 2. In a January, 1983 intracompany report the inventor said that an ongoing evaluation of the BASF product indicated that it "continued to show promise" and in two specific tests "gave [approximately] 20% improvement in bench life." (Pet. App. at 29a)
>
> 3. In March, 1983, according to the inventor's affidavit, Acme was testing the BASF Part 2 resin and at that time made plans "to switch to BASF as the source of polyisocyanate." (Pet. App. at 28a)
>
> 4. In his pre-trial deposition, Mr. Laitar acknowledged that the BASF product was "an assist . . . in improving bench life" that would, depending "on the particular conditions," result in approximately 20% bench life improvement. (Pet. App. at 29a-30a)
>
> 5. During oral argument in the trial court, petitioner's counsel stated that "the test data that had been amassed before the patent application was filed did show the BASF material to be better." (Pet. App. at 30a)

These undisputed facts were the only evidence relied upon by either of the courts below. What is most

significant about the recitation of these facts is that while they do show that the inventor knew before the patent application was filed that the BASF product was a "better" Part 2 component in certain situations, there is no statement by the inventor that use of the BASF product was the "best" mode of practicing his invention which was the addition of BPOD to the Part 2 component. In short, there was absolutely no evidence before the court as to the inventor's subjective state of mind regarding the combined effects of his invention—use of BPOD—and any particular Part 2 resin. In order for either court to have concluded that there was "clear and convincing evidence" that Mr. Laitar failed to disclose the best mode known to him, the courts had to infer from these facts that Mr. Laitar's belief that the BASF component was "better" in certain circumstances was actually the same as a belief that use of that component in conjunction with his invention was the "best mode" of practicing his invention. That conclusion, we respectfully submit, is precisely the type of fact-finding inference and ultimate determination that a jury *may* be permitted to make, but it cannot on this record be an ultimate fact that a jury would be instructed as a matter of law to make.

The decisions of both courts below reflect a misunderstanding of the role of judges in deciding disputed issues. While the basic roles of judge and jury are well understood, it is not always clear whether a particular disputed issue is one of fact, law or mixed fact and law. In this case the precedents of the Federal Circuit are clear that "best mode" is a factual issue. What was not clear to the two lower courts, we submit, was that there was a "genuine dispute"

over that clearly material fact. Both courts concluded that because the five basic facts summarized above were not disputed, the "best mode" issue was appropriate for summary disposition. Petitioner submits that both courts impermissibly crossed over the line drawn by this Court's decisions setting forth the proper role of the judge in deciding issues summarily.

As pointed out, there was no direct evidence of the inventor's state of mind as to the best mode of using his invention, but only evidence that he believed use of the BASF component achieved better results under certain conditions. There was no "clear and convincing" statement that he believed the BASF component, when used in combination with the BPOD additive, resulted in the absolute "best" foundry resin composition. Neither party submitted any testimony or other evidence as to Mr. Laitar's subjective belief as to the best combination of ingredients. If the matter had proceeded to trial, Mr. Laitar may or may not have been asked directly whether use of the BASF component in combination with his invention was known to him when the application was filed to be the "best mode" of using the invention. If he had been asked that question, the credibility and weight to be given to his answer would clearly have been an issue for the fact-finder to decide and his testimony, if fully credited, would undoubtedly have been dispositive. Absent such testimony, however, any determination of his subjective belief at the time the application was filed must necessarily entail a guess and cannot be the simple application of logical analysis to undisputed evidentiary facts.

The Court of Appeals evidenced a clear confusion as to its role in deciding this case and it appears to

have applied the wrong appellate review standard. Having cited and described at length the relevant precedents both as to the substantive patent law and the proper appellate review principles, the panel proceeded to affirm the judgment below because "Acme ha[d] not shown [the concealment] finding to be clearly erroneous." (Pet. App. at 32a) That statement by the panel is plainly inappropriate and legally erroneous. If, as the Court of Appeals concluded, the "best mode" issue was appropriate for summary judgment, it was only because there was no genuine dispute as to a material fact and therefore was no place for "factual findings" by the district court. If it was appropriate to affirm a summary judgment, there was nothing to review on appeal under the "clearly erroneous" standard applied to trial court findings of fact under Rule 52. Review of summary judgments is conducted entirely under a *de novo* standard since such judgments, when appropriate, raise only legal issues that do not require any deference to the trial court's ability to observe witnesses, assess credibility or otherwise engage in the process of finding facts that are then presumed to be correct unless shown to be "clearly erroneous."

The Court of Appeals' statement that Acme had failed in its burden to show that this "finding" was "clearly erroneous" necessarily indicates either that the panel in fact realized that the "best mode" issue was a material factual one genuinely in dispute, which makes summary disposition improper, or that the panel applied the wrong standard of appellate review to an issue that was properly decided summarily. It was, we submit, plain error to uphold a summary

judgment because an essential finding was not "clearly erroneous."

The errors below are failures to properly apply clearly established rules. If, upon consideration of this petition, the Court concludes that this case would serve as a useful vehicle for clearly explaining to the courts of appeals the fine points of summary adjudication, then certiorari should be granted and the case set for full briefing and argument. If, however, this Court believes that the Court of Appeals was plainly wrong but plenary review is unnecessary, then the petition should be granted and the decision below reversed summarily.

II. This Case Affords the Court an Opportunity to Establish the Proper Construction of the "Best Mode" Requirement of 35 U.S.C. § 112, Which Has Not Previously Been Construed By This Court and Which Has Been Applied Inconsistently By the Court of Appeals for the Federal Circuit in Prior Decisions

The requirement for disclosure of the best mode in 35 U.S.C. § 112, has been the subject of many decisions by the Court of Appeals for the Federal Circuit since it was established in October 1982, and there were many decisions by its predecessor, the Court of Customs and Patent Appeals. This Court, however, has never rendered an authoritative decision on the proper meaning of this provision of the patent laws. A sampling of the decisions of the Federal Circuit demonstrates a certain inconsistency and uncertainty which, we submit, warrants intervention at this time by this Court.

In *Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200 (Fed. Cir.), *cert. den.*, ___ U.S. ___, 112 S. Ct. 169, 116 L.Ed.2d 132 (1991), one of the

claims at issue was addressed to a mammalian host cell transformed so that it produced a valuable pharmaceutical, erythropoietin (EPO). The defense to a charge of infringement was that the inventor had failed to disclose the best host cells known to the inventor as of the filing date of his patent application.

The District Court had found that the best mode involved the use of a certain kind of Chinese hamster ovary (CHO) cells, because these produced EPO at a rate greater than that of other cells. The District Court further found that the CHO strain was disclosed in the patent application, and that the inventor knew of no better mode. The defense argued that the inventor's best mode was not adequately disclosed because one skilled in the art could not duplicate the best mode without having access to a deposit in an official public depository of a sample of the specific host cells used by the inventor. The issue before the Federal Circuit was whether or not a deposit of the preferred CHO cells was necessary to comply with the best mode requirement.

The Federal Circuit carefully distinguished the best mode requirement from the requirement of 35 U.S.C. § 112 for enough disclosure to enable any person skilled in the art to make and use the invention. The Federal Circuit noted that when a written description alone does not place the invention in the hands of the public, and physical possession of a unique biological material is required, then a deposit of that unique biological material in a public depository may be necessary to satisfy the enablement requirement. *Amgen, supra*, 927 F.2d at 1209-11. *See also In re Wands*, 858 F.2d 731, 735-36 (Fed. Circuit 1988). In the *Amgen* case the Federal Circuit held that the

inventor had disclosed the best mode and deposit of the host cells was not required to obtain a valid patent.

Even if laborious and time-consuming work is required to follow the teachings of the inventor in order to practice the best mode, and even if the need for that work could have been obviated by means of a deposit in a public depository, the failure to make a deposit is not evidence of concealment of the best mode. *Scripps*, *supra*, 927 F.2d at 1565, 1579 (Fed. Cir. 1991).

The confusion in application of the "best mode" requirement is evident by comparing the *Amgen* decision, the *Scripps* decision and the decision in this case. In *Amgen* the Court of Appeals was careful to distinguish between the "best mode" provision and the "enablement" requirement of the statute which is designed to insure sufficient disclosure of technical information to permit others to use the invention. In *Scripps*, however, the Court of Appeals appears to have used the "enablement" concept to bolster its conclusion that the inventor in that case had disclosed his "best mode." In *Scripps* the invention was a substance known as human Factor VIII:C, a protein essential to normal blood clotting. The district court had invalidated Scripps' patent on summary judgment, finding that the inventor had failed to disclose the specific monoclonal antibodies that were necessary in the preparation of the improved Factor VIII:C. The Court of Appeals in that case reversed the summary judgment, noting that the inventor had disclosed the *process* for obtaining those specific antibodies and that disclosure of procedures was sufficient disclosure of

the "best mode" because it enabled others to practice the invention. *Scripps*, *supra*, 927 F.2d at 1578-79.

The use in *Scripps* of enablement considerations to decide whether the "best mode" has been disclosed is not consistent with the careful distinction drawn in *Amgen* between the two different statutory requirements. Moreover, the Court of Appeals' reversal of the summary judgment in *Scripps* evidences an approach to "best mode" issues that is inconsistent with that Court's affirmation of the summary judgment in this case.

In *Amgen* the Court of Appeals reviewed a judgment after trial and said that "[a] determination whether the best mode requirement is satisfied is a question of fact . . . ; we therefore review . . . under a clearly erroneous standard." *Amgen*, *supra*, 927 F.2d at 1209. In that opinion the same panel noted that "[w]hether a claimed invention is enabled under 35 U.S.C. § 112 is a question of law, which we review *de novo*." *Id.* at 1212. In *Scripps* a different panel of that court reviewed a summary judgment of invalidity for failure to disclose "best mode" and reversed that decision. The *Scripps* panel stated that it was reversing the decision "[a]s a matter of law," thus implying it was using the *de novo* standard appropriate to review of summary decisions. *Scripps*, *supra*, 927 F.2d at 1580. In this case a third panel stated that it was applying the "clearly erroneous" review standard to a summary disposition. The differences in approach among the three separate panels demonstrates an inconsistency in the application of the statute as well as the standards for appellate review which justifies this Court's review of this case.

Similarly, in *Wahl Instruments, Inc. v. Acvious, Inc.*, 950 F.2d 1575 (Fed. Cir. 1991), where the inventor did not disclose a particular manufacturing technique and a particular plastic, both of which were subsequently used for commercial production of the invention by the inventor's company, but both of which were old and well known in the art, the Federal Circuit found disclosure unnecessary. The Federal Circuit noted that any process of manufacture requires the selection of specific materials over others, and that the best mode does not necessarily cover each of these selections. The Federal Circuit further noted that a material that is considered to be best for manufacturing purposes may have been selected for non-best mode reasons, having nothing to do with the development of the invention.

The Federal Circuit commented in *Wahl* that in deciding a best mode issue, a court must look at the scope of the invention, the skill of the art, evidence as to the inventor's knowledge and belief, and all of the circumstances, in order to evaluate whether the inventor's failure to disclose particular information gives rise to an inference that the inventor concealed information that one of ordinary skill in the art would not know. There the Federal Circuit held that the burden was *on the infringer* to show that (1) a component part of the patented device, used in the commercial embodiment but not mentioned in the patent, was a part of the best mode of the invention and not simply a manufacturing choice, and that (2) if part of the best mode, those skilled in the art would not likely know that the part could be used to carry out the invention.

Petitioner submits that the decision of the Federal Circuit in *Wahl* cannot be reconciled with its decision in this case. In the present case, the use of any particular Part 1 component or any particular Part 2 component is a manufacturing choice, and those skilled in the art of making foundry resins would know not only that any Part 1 component and Part 2 component could be used, but in addition, would also know that selection of particular components would make incremental differences in the properties of the resin, including incremental differences in bench life.

The Acme invention had been shown to significantly extend the bench life of the mixed resins, regardless of which Part 2 resin was used. Indeed, the Acme addition had so drastically extended bench life that the mixed resin could be used for a full work shift without hardening beyond usable limits. The full shift bench life extension achieved by the invention was a dramatic breakthrough in this industry.

In *Amgen*, the Federal Circuit held that written words were enough to permit the duplication of living cells. It did so despite testimony that as to the critical criterion of EPO production, some "duplicated" cells might be better, and some worse, than the trade secret Amgen cells.

The *Amgen* approach is in stark contrast to the ruling in this case, in the face of evidence of record that all known Parts 1 and Parts 2 were recognized in the art to lead to incrementally different resin properties, including bench life.

The decision in this case is also at odds with the *Wahl* rationale that a commercially available raw material, well known to those in the art, does not become

the best mode of an invention simply because it is selected by one skilled in the art for use in the commercial version of the invention.

Because of the apparent lack of consistency in the application of the "best mode" requirement in cases presented to the Federal Circuit, this Court should grant this petition and use this case as a means of clarifying the applicable law to insure faithful implementation of the statute.

CONCLUSION

For the reasons stated, the Court should either grant a writ of certiorari and set the case for briefing and argument, or summarily reverse and remand the case to the trial court for trial on the merits of the disputed factual "best mode" issue.

Respectfully submitted,

KENNETH C. BASS, III
Counsel of Record
FRANK E. ROBBINS
VENABLE, BAETJER, HOWARD & CIVILETTI
1201 New York Avenue, N.W.
Suite 1100
Washington, D.C. 20005
(202) 962-4800
Counsel for Petitioner

Of Counsel:

KENNETH P. VAN WYCK
BORDEN, INC.
180 East Broad Street
Columbus, Ohio 43215
(614) 225-3369

July, 1992

APPENDIX

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF OHIO

CASE NUMBER: C-2-86-0187

ACME RESIN CORP.,

V.

ASHLAND OIL, INC.,

FILED
KENNETH J. MURPHY
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DISTRICT COURT
SOUTHERN DIST. OHIO
EASTERN COLUMBUS

JUDGMENT IN A CIVIL CASE

☐ Jury Verdict. This action came before the Court for a trial by jury. The issues have been tried and the jury has rendered its verdict.

☒ Decision by Court. This action came to trial or hearing before the Court. The issues have been tried or heard and a decision has been rendered.

IT IS ORDERED AND ADJUDGED defendant's September 6, 1990 motion for summary judgment is GRANTED. Judgment is entered for the defendant.

March 15, 1991
Date

Kenneth J. Murphy
Clerk

Nancy Schmelzer
(By) Deputy Clerk

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF OHIO
EASTERN DIVISION

Case C-2-86-187

ACME RESIN CORP.,

Plaintiff,

vs.

ASHLAND OIL, INC.,

Defendant.

FILED
KENNETH J. MURPHY
CLERK
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DISTRICT COURT
SOUTHERN DIST. OHIO
EASTERN COLUMBUS

MEMORANDUM AND ORDER

This matter is presently before the Court on the motions for summary judgment filed by defendant on May 18, 1990 and September 6, 1990.[1] Oral argument on these motions was held on November 19, 1990. Plaintiff has also filed a motion for leave to file a supplemental memorandum.

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[1] On May 18, 1990 defendant filed another motion for summary judgment which deals with the issue of damages caused by defendant's alleged infringement of plaintiff's patent. However, in view of the Court's ruling herein on defendant's September 6, 1990 summary judgment motion, the motion for summary judgment regarding damages is moot.

STATEMENT OF FACTS

The invention giving rise to this patent infringement action relates to a process for making foundry cores and molds for the casting of metal. These cores or molds are formed through what is described as a "cold box" process. In the cold box system, sand is mixed with two resins which act as binding components, a polyhydroxy compound and a polyisocyanate compound, and the mixture is stored until needed. To form the cores or molds, the sand and binder composition is blown into a cold box where it is cured by passing a gaseous catalyst through the mixture, which causes the binding components to react and bonds the sand into the desired shape. However, it seems that even before the catalyst is introduced the binding components, the polyhydroxy and the polyisocyanate, can react after being mixed with the sand, and such premature reaction reduces the flowability of the mixture and ultimately decreases the strength of the cured mold.

Through research, Acme discovered a way to prevent the premature reaction of the binder composition without interfering with the intended reaction which occurs when the catalyst is added. Acme's research disclosed that certain organic phosphorus compounds added to the binder composition would act as "bench life extenders" ("bench life" being the time period after the sand mixture is prepared and when it can be used satisfactorily). On June 29, 1983 Acme applied for a patent on the invention of incorporating organic phosphorus compounds as bench life extenders in the cold box system. Patent number 4,436,881 ("the '881 patent"), the patent in question in this case, was issued on March 13, 1984 and described the chemical compound phenylphosphonic dichloride, or "BPOD," as the preferred organic phosphorus compound for the bench life extender.

In July 1983 Ashland obtained a sample of an Acme resin containing the bench life extender, was impressed

with its performance, and began its own research into bench life extenders. Ashland determined that the Acme additive was BPOD, and Ashland's research failed to reveal a better additive. Ashland began using BPOD as a bench life extender in its own products and continued to use BPOD until April 1986, shortly after Acme filed this patent infringement action. Ashland switched to what it found to be the second most effective bench life extender, an oxygen analog of BPOD called dichlorophenyl phosphate, or "MPCP." Acme claims in this lawsuit that Ashland's use of MPCP as a bench life extender constitutes an infringement of the '881 patent under the doctrine of equivalents. On March 14, 1989, the Court denied Ashland's earlier motion for summary judgment, finding the existence of a genuine issue of material fact on the questions of equivalence and infringement.

Ashland has now filed two additional summary judgment motions setting forth two separate theories. In the first motion, filed May 18, 1990, Ashland argues that Acme forfeited any right to claim that Ashland's use of MPCP is an infringement of the '881 patent because the application for that patent, and the application for the related patent number 4,514,316, failed to disclose the fact that MPCP had been tried and rejected as a bench life extender. Acme argues in response that it had no duty to specifically disclose the use of MPCP as a bench life extender. In its second motion for summary judgment, filed September 6, 1990, Ashland argues that the '881 patent is invalid for failure to set forth the best mode contemplated by the inventor of carrying out his invention, as required by 35 U.S.C. § 112. Specifically, the patent allegedly fails to satisfy the best mode requirement because it fails to disclose the best binding components, the polyhydroxy component and the polyisocyanate component, for use in the invention. In response to this argument Acme argues that a best mode determination involves a factual inquiry not appropriate for resolution on a motion for summary judgment,

and that in fact Acme did not violate the best mode requirement by failing to disclose the "best" polyhydroxy and polyisocyanate components.

The Court heard oral argument on defendant's motions on November 19, 1990. Since that time the parties deposed Mr. Charles E. Seeney, Ashland's expert witness, and on January 2, 1991 Acme filed a motion for leave to file a supplemental memorandum in support of its position on the invalidity issue. Acme contends that Mr. Seeney's deposition testimony is relevant to the question whether the best mode requirement was satisfied. Ashland responds that Acme's supplemental memorandum contains matters not based on any evidence raised during Mr. Seeney's deposition, that Acme's motion for leave to file the supplemental memorandum "should be limited to only new evidence raised during the Seeney deposition," and that Mr. Seeney's deposition testimony actually supports Ashland's position on the best mode issue.

DISCUSSION

A. STANDARD FOR SUMMARY JUDGMENT

Fed. R. Civ. P. 56(c) provides:

> [Summary judgment] . . . shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law.

"[T]his standard provides that the mere existence of *some* alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact." *Anderson v. Liberty Lobby, Inc.*, 477

U.S. 242, 247-48 (1986) (emphasis in original); *Kendall v. Hoover Co.*, 751 F.2d 171, 174 (6th Cir. 1984).

Summary judgment will not lie if the dispute about a material fact is genuine; "that is, if the evidence is such that a reasonable jury could return a verdict for the non-moving party." *Anderson*, 477 U.S. at 248. The purpose of the procedure is not to resolve factual issues, but to determine if there are genuine issues of fact to be tried. *Lashlee v. Sumner*, 570 F.2d 107, 111 (6th Cir. 1978). Therefore, summary judgment will be granted "only where the moving party is entitled to judgment as a matter of law, where it is quite clear what the truth is, . . . [and where] no genuine issue remains for trial, . . . [for] the purpose of the rule is not to cut litigants off from their right of trial by jury if they really have issues to try." *Poller v. Columbia Broadcasting Sys.*, 368 U.S. 464, 467 (1962) (quoting *Sartor v. Arkansas Natural Gas Corp.*, 321 U.S. 620, 627 (1944)); *accord County of Oakland v. City of Berkley*, 742 F.2d 289, 297 (6th Cir. 1984).

In making this inquiry, the standard to be applied by the Court mirrors the standard for a directed verdict. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986); *Anderson*, 477 U.S. at 250.

> The primary difference between the two motions is procedural; summary judgment motions are usually made before trial and decided on documentary evidence, while directed verdict motions are made at trial and decided on the evidence that has been admitted." *Bill Johnson's Restaurants, Inc. v. NLRB*, 461 U.S. 731, 745, n.11 (1983). In essence, though, the inquiry under each is the same: whether the evidence presents a sufficient disagreement to require submission to a jury or whether it is so one-sided that one party must prevail as a matter of law.

Anderson, 477 U.S. at 251-52. Accordingly, although summary judgment should be cautiously invoked, it is an integral part of the Federal Rules, which are designed "to secure the just, speedy and inexpensive determination of every action." *Celotex*, 477 U.S. at 327 (quoting Fed. R. Civ. P. 1).

In a motion for summary judgment the moving party bears the "burden of showing the absence of a genuine issue as to any material fact, and for these purposes, the [evidence submitted] must be viewed in the light most favorable to the opposing party." *Adickes v. S.H. Kress & Co.*, 398 U.S. 144, 157 (1970) (footnote omitted); *accord Adams v. Union Carbide Corp.*, 737 F.2d 1453, 1455-56 (6th Cir.), *cert. denied*, 469 U.S. 1062 (1984). Inferences to be drawn from the underlying facts contained in such materials must also be considered in the light most favorable to the party opposing the motion. *United States v. Diebold, Inc.*, 369 U.S. 654, 655 (1962); *Watkins v. Northwestern Ohio Tractor Pullers Ass'n*, 630 F.2d 1155, 1158 (6th Cir. 1980). Additionally, "unexplained gaps" in materials submitted by the moving party, if pertinent to material issues of fact, justify denial of a motion for summary judgment. *Adickes*, 398 U.S. at 157-60.

If the moving party meets its burden and adequate time for discovery has been provided, summary judgment is appropriate if the opposing party fails to make a showing sufficient to establish the existence of an element essential to that party's case and on which that party will bear the burden of proof at trial. *Celotex*, 477 U.S. at 322. The existence of a mere scintilla of evidence in support of the opposing party's position is insufficient; there must be evidence on which the jury could reasonably find for the opposing party. *Anderson*, 477 U.S. at 252.

> When a motion for summary judgment is made and supported as provided in this rule, an adverse party may not rest upon the mere alle-

> gations or denials of the adverse party's pleading, but the adverse party's response, by affidavits or as otherwise provided in this rule, must set forth specific facts showing that there is a genuine issue for trial. If the adverse party does not so respond, summary judgment, if appropriate, shall be entered against the adverse party.

Fed. R. Civ. P. 56(e).

B. FORFEITURE

Ashland argues that Acme has forfeited its right to claim that Ashland's use of MPCP infringes on the '881 patent because Acme had itself tried MPCP as a bench life extender but failed to disclose it in the '881 patent.

There is no dispute that Robert A. Laitar, inventor of the '881 patent, experimented with MPCP as a potential bench life extender prior to the filing of the patent application. Ashland contends that by failing to disclose MPCP in the patent application Acme concealed its use from the public and thereby forfeited its right to patent protection with regard to its use. Ashland relies on several cases, including *Kendall v. Winsor*, 62 U.S. (21 How.) 322 (1858), in which the Supreme Court held:

> The true policy and ends of the patent laws enacted under this government are disclosed in that article of the Constitution, the source of all these laws, *viz.*, "to promote the progress of science and the useful arts," contemplating and necessarily implying their extension, and increasing adaptation to the uses of society. *Vide* Constitution of the United States, art. I § 8, clause 9. By correct induction from these truths, it follows that the inventor who designedly, and with the view of applying it indefinitely and exclusively for his own profit, withholds his invention from the public, comes not within the policy or objects of the

> Constitution or acts of Congress. He does not promote, and if, aided in his design, would impede, the progress of science and the useful arts. And with a very bad grace could he appeal for favor or protection to that society which, if he had not injured, he certainly had neither benefited nor intended to benefit. Hence, if, during such a concealment, an invention similar to or identical with his own should be made and patented, or brought into use without a patent, the latter could not be inhibited nor restricted, upon proof of its identity with a machine previously invented and withheld and concealed by the inventor from the public. The rights and interests, whether of the public or of individuals, can never be made to yield to schemes of selfishness or cupidity; moreover, that which is once given to or is invested in the public cannot be recalled nor taken from them.

Id. at 328. *See also Woodbridge v. United States*, 263 U.S. 50, 56 (1923).

There is no dispute that an inventor may not invoke the protection of the patent laws when he conceals his invention from the public and during the period of concealment another has patented or put into practice the invention. However, with the possible exception of the 1873 Illinois Circuit Court case cited by defendant, *Evarts v. Ford*, 8 F. Cas. 892 (C.C.N.D. Ill. 1873) (No. 4,574), the Court is aware of no authority which holds that a patentee forfeits his right to bring a patent infringement action under the doctrine of equivalents simply by failing to disclose in the patent application his own experimentation with the alleged infringing product. To the contrary, cases generally hold that "[i]t is not required that those skilled in the art knew, at the time the patent application was filed, of the asserted equivalent means of performing the claimed function; that equivalence is determined as of the

time infringement takes place." *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 805 F.2d 1558, 1563 (Fed. Cir. 1986). *See also Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1581 (Fed. Cir. 1984).

In the Court's view, the fact that Mr. Laitar experimented with MPCP but did not disclose it in the patent application does not compel the conclusion that Acme forfeited its right to claim patent infringement under the doctrine of equivalents by Ashland's subsequent use of MPCP.

> [F]inding equivalence is not inconsistent with a patentee's unsuccessful attempt to make the accused product. The focus in assessing equivalence is on whether the accused product performs substantially the same as the claimed product in function, way and result—it is not on the patentee's ability to devise a product equivalent to the patented product. Indeed, the patentee's incentive to devise an equivalent product is often less than a competitor's, which alone may account for the competitor's success and the patentee's failure in devising the equivalent product.

Atlas Powder Co., 750 F.2d at 1581. Defendant attempts to distinguish *Atlas Powder Co.* by noting that in that case no forfeiture defense was presented, and because the inventor in the present case, Mr. Laitar, was successful in using the accused product, MPCP, while the inventor in *Atlas Powder Co.* has been unsuccessful in attempts to make the accused product. However, in the Court's view these distinctions do not prevent application of the basic principle recognized in *Atlas Powder Co.* that a patentee does not lose his right to bring an action under the doctrine of equivalents by failing to disclose his own prior experimentation with the accused product. In the present case, Mr. Laitar experimented with different potential bench life extenders, found BPOD to be the preferred bench life extender, and disclosed BPOD in the patent

application. The Court does not believe that Mr. Laitar would be required to disclose all the potential bench life extenders with which he experimented or risk forfeiting the right to sue under the doctrine of equivalents for another's later use of one of those potential bench life extenders. As Acme correctly points out, the issue in this case is infringement by equivalence of the '881 patent, not whether Ashland is entitled to priority over the patent rights to use of MPCP, and the case law clearly holds that these are two separate matters. *See id.* at 1580; *Texas Instruments, Inc.*, 805 F.2d at 1563. In short, the Court does not find persuasive defendant's arguments with respect to application of the forfeiture doctrine as expressed in *Kendall* and *Woodbridge* and embodied in 35 U.S.C. § 102(g).[2] The Court likewise finds no merit in defendant's alternative argument that use of the words "consists of" in the description of the organic phosphorus compound additive limits Acme's right to bring an action alleging that use of a compound not expressly included in the description, specifically MPCP, infringes under the doctrine of equivalents.

Accordingly, the Court concludes that defendant's May 18, 1990 motion for summary judgment regarding forfeiture must be denied.

C. BEST MODE

Ashland argues in its September 6, 1990 motion for summary judgment that the '881 patent is invalid because it fails to meet the best mode requirement of 35 U.S.C. § 112. Acme argues that the best mode inquiry is subjective and fact specific, and thus is not appropriate for summary judgment. Acme also argues that the '881 patent is not invalid for failure to meet the best mode requirement.

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[2] Section 102(g) provides in pertinent part. "A person shall be entitled to a patent unless . . . before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it."

"A patent shall be presumed valid." 35 U.S.C. § 282. A party challenging the validity of a patent "must prove the facts to establish invalidity of each claim by clear and convincing evidence." *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988). *See also Atlas Powder Co.*, 750 F.2d at 1573. The "clear and convincing evidence" standard "has been described as evidence which produces in the mind of the trier of fact 'an abiding conviction that the truth of [the] factual contentions are "highly probable." ' " *Buildex Inc. v. Kason Indus., Inc.*, 849 F.2d 1461, 1463 (Fed. Cir. 1988). Although the determination depends on factual issues, patent validity is a question of law. *Avia Group Int'l v. L.A. Gear California, Inc.*, 853 F.2d 1557, 1562 (Fed. Cir. 1988); *Leesona Corp. v. Varta Batteries, Inc.*, 522 F. Supp. 1304, 1318-19 (S.D.N.Y. 1981). Here defendant claims that the patent is invalid because the specification fails to meet the requirements of 35 U.S.C. § 112, specifically the best mode requirement set forth in the first paragraph of section 112.

The first paragraph of 35 U.S.C. § 112 provides:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

This provision of section 112 places two separate and distinct requirements upon the inventor: (1) include sufficient information to enable one skilled in the art to make and use the invention (the "enablement" requirement); and (2) set forth the best mode contemplated by the inventor of carrying out the invention (the "best mode" requirement). *See Dana Corp. v. IPC Ltd. Partnership*, 860 F.2d

415, 419 (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1067 (1989). In the present case, defendant alleges that the Acme '881 patent is invalid because its inventor, Robert A. Laitar, failed to set forth the best mode contemplated by him of carrying out the invention.

The "best mode" analysis has two components:

> The first is whether, at the time the inventor filed his patent application, he knew of a mode of practicing his claimed invention that he considered to be better than any other. This part of the inquiry is wholly subjective, and resolves whether the inventor must disclose any facts in addition to those sufficient for enablement. If the inventor in fact contemplated such a preferred mode, the second part of the analysis compares what he knew with what he disclosed—is the disclosure adequate to enable one skilled in the art to practice the best mode or, in other words, has the inventor "concealed" his preferred mode from the "public"? Assessing the *adequacy* of the disclosure, as opposed to its *necessity*, is largely an objective inquiry that depends upon the scope of the claimed invention and the level of skill in the art.

Chemcast Corp. v. Arco Indus. Corp., 913 F.2d 923, 927-28 (Fed. Cir. 1990). The purpose of the best mode requirement is "to ensure that the public, in exchange for the rights given the inventor under the patent laws, obtains from the inventor a full disclosure of the preferred embodiment of the invention." *Dana Corp.*, 860 F.2d at 418. Whether or not the inventor satisfied the best mode requirement is a factual question. *Chemcast Corp.*, 913 F.2d at 928; *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1535-36 (Fed. Cir.), *cert. denied*, 484 U.S. 954 (1987).

Plaintiff argues that the "best mode" determination cannot be made on a motion for summary judgment because it necessarily depends on factual issues concerning the state of mind of the inventor. *See Spectra-Physics, Inc.*, 827 F.2d at 1535-36. However, the need to inquire into the inventor's state of mind would not per se preclude the granting of summary judgment on the best mode issue where there are no disputed issues of fact. *See, e.g., Scripps Clinic & Research Found. v. Genentech, Inc.*, 707 F. Supp. 1547, 1550 (N.D. Cal. 1989); *Refec Int'l Ltd. v. IBM*, 689 F. Supp. 422, 428 (D.N.J. 1988). The Court of Appeals for the Federal Circuit "has repeatedly emphasized that 'summary judgment is as appropriate in a patent case as in any other.' " *Avia Group Int'l, Inc.*, 853 F.2d at 1561. Although plaintiff claims that defendant's motion "turns on hotly disputed factual questions," the critical factual issue, the knowledge of Mr. Laitar at the time the application was filed as to what Mr. Laitar considered to be the best mode of practicing the claimed invention, is an issue which has been inquired into at some length at Mr. Laitar's deposition and is further revealed in memoranda and an affidavit of Mr. Laitar which have been submitted. To the extent the critical facts have been established and are no longer subject to dispute, a best mode determination may be made on a motion for summary judgment. The burden is, as previously stated, on the defendant to establish the absence of a genuine issue of material fact on this question.

Defendant claims that the best mode requirement was not satisfied in two respects: (1) failure to disclose the best polyhydroxy component; and (2) failure to disclose the best polyisocyanate component. Before considering whether the "best" polyhydroxy and polyisocyanate components were, in fact, disclosed, the Court must examine whether the patented invention would require such disclosure. In its memorandum contra Acme states that the BASF polyisocyanate (the polyisocyanate allegedly found to be the

best by Mr. Laitar but which was not disclosed) was only one of a number of commercially available alternatives, and that inclusion of the BASF trade name in the patent would have been "mere surplusage." At oral argument Acme's counsel put forth a more general argument that since the invention claimed is the addition of the organic phosphorus compound as a bench life extender, the particular polyisocyanate and polyhydroxy compounds used have nothing to do with the invention, and thus the best mode requirement would not necessitate disclosing any particular polyhydroxy or polyisocyanate as the "best." There is no dispute that binder compositions consisting of polyhydroxy and polyisocyanate components are part of the prior art, and it is well established that "[a] patent need not teach, and preferably omits, what is well known in the art." *Spectra Physics, Inc.*, 827 F.2d at 1534. *See also Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384 (Fed. Cir. 1986) *cert. denied*, 480 U.S. 947 (1987). However, the Court is of the view that the best mode requirement would, in this case, require disclosure of the particular polyhydroxy and polyisocyanate components, if any, which the inventor contemplated as the best for practicing the claimed invention.

The focus of the best mode requirement, as well as the enablement requirement, is on the *claimed* invention, and thus the scope of the claimed invention must first be defined. *Christianson v. Colt Indus. Operating Corp.*, 870 F.2d 1292, 1301-02 (7th Cir.), *cert. denied*, 110 S. Ct. 81 (1989). The patented invention in the present case is, without question, the addition of the organic phosphorus compound as a bench life extender, and Mr. Laitar was required to set forth what he himself contemplated to be the best mode of carrying out this invention. Inasmuch as the essential purpose of the invention is to extend the bench life of the mixture of sand and binder composition in the cold box system, the "best mode of carrying out the invention" would mean the best method contemplated

by Mr. Laitar for achieving the desired result, *i.e.*, bench life extension. In this regard, there is no doubt that the key element in Mr. Laitar's invention is the organic phosphorus compound additive, and thus the best mode requirement would clearly require Mr. Laitar to disclose what he believed to be the best organic phosphorus compound. Mr. Laitar did disclose the compound phenylphosphonic dichloride, BPOD, as the preferred compound to achieve the desired bench life extension.

However, the testimony and exhibits which have been presented clearly show that the effectiveness of the organic phosphorus additive as a bench life extender depends not only on the particular organic phosphorus compound used but also on the other components in the cold box system with which the organic phosphorus additive is designed to interact. The "best mode" of practicing the invention would thus entail not only the preferred organic phosphorus compound, BPOD, but also the preferred binder components which, when the phosphorus compound is added, produce the optimal results in terms of bench life extension. Although use of a polyhydroxy component and a polyisocyanate component in the binder composition is not in and of itself the invention and is plainly known in the prior art, "[a] patent applicant must disclose the *best* mode of carrying out his claimed invention, not merely *a* mode of making and using what is claimed." *Chemcast Corp.*, 913 F.2d at 928. Accordingly, identification of any commercially available polyhydroxy and polyisocyanate would not necessarily be sufficient in this case, and to the extent Mr. Laitar contemplated use of preferred polyhydroxy and polyisocyanate components in his invention, the best mode requirement would demand that those preferred embodiments be disclosed. "For example, if one should invent a new and improved internal combustion engine, the best mode requirement would require a patentee to divulge the fuel on which it would run best." *Randomex, Inc. v. Scopus Corp.*, 849 F.2d 585, 590 n.* (Fed. Cir.

1988). *See also Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 940-41 (Fed. Cir.), *cert. denied*, 111 S. Ct. 296 (1990). As the court held in *Dana Corp.*, 860 F.2d at 419:

> The best mode requirement is not satisfied by reference to the level of skill in the art, but entails a comparison of the facts known to the inventor regarding the invention at the time the application was filed and the disclosure in the specification. *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d at 1535, 3 USPQ2d at 1745. Indeed, in expressing this requirement, 35 U.S.C. § 112 states explicitly that disclosure must be made of the best mode "contemplated by the inventor." Accordingly, Dana's argument that the best mode requirement may be met solely by reference to what was known in the prior art is incorrect.

See also Refac Int'l Inc., 689 F. Supp. at 432 (requiring the patentee "to disclose the system which makes the patent run if that system is important in the disclosure of the 'best mode' "). Therefore, the Court finds that the best mode requirement would demand in this case that Mr. Laitar, the inventor, disclose not only the preferred organic phosphorus compound additive, but also what binder components, if any, he contemplated to be the best polyhydroxy and polyisocyanate components which, when used as the binder composition in carrying out the invention, produced the best results in terms of bench life extension.

The only specific example of a polyhydroxy component identified in the specifications is "Acme Flow 2030 part 1 Resin, a phenolic resole resin solution available from The Acme Resin Corporation, Forest Park, Ill." Defendant claims that this violates the best mode requirement for two reasons: (1) because it fails to explain the procedure

for making Acme Flow 2030 Part 1 Resin, which is apparently made by a confidential procedure and which, according to Mr. Laitar's deposition testimony, cannot be reverse engineered; and (2) because, at the time the application was filed Mr. Laitar knew that another Acme Resin, 2035 Resin, provided better bench life properties that the 2030 Resin. With respect to the first argument, it appears undisputed that Acme's 2030 Resin is a material which is commercially available, and the Court does not read the cases cited by defendant to support the proposition that an inventor is required to set forth in his patent application the manufacturing procedure for a component which is commercially available. To continue the analogy previously set forth, "if one should invent a new and improved internal combustion engine, the best mode requirement would require a patentee to divulge the fuel on which it would run best. This patentee, however, would not be required to disclose the formula for refining gasoline or any other petroleum product." *Randomex, Inc.*, 849 F.2d at 590 n.* Regarding the second argument, although 2035 Resin may be a "better" polyhydroxy compound for use in Laitar's invention in the sense that it has better bench life properties than 2030 Resin when used under some circumstances, it appears from the evidence presented that the 2035 Resin is a specialty resin not suited for general casting use. 2030 Resin, on the other hand, is a "general purpose" resin which overall would produce better casting results. The Court finds that defendant has not established that plaintiff failed to meet the best mode requirement in the disclosure of 2030 Resin, as opposed to 2035 Resin, as the preferred polyhydroxy component.

Defendant has a much stronger argument with respect to the alleged failure to disclose the best polyisocyanate compound. The only polyisocyanate described in the patent application is a compound produced by the Upjohn Com-

pany and designated PAPI-135.[3] Defendant claims that at the time the patent application was filed Mr. Laitar had tested a different polyisocyanate, produced by the German company BASF, and determined that the BASF material was substantially better than the Upjohn material. Plaintiff argues that the BASF polyisocyanate was still being tested at the time the patent application was filed, and that it was only after the application was filed that Acme reached the conclusion that the BASF polyisocyanate was "better."

In resolving this disputed issue, the Court has thoroughly reviewed the exhibits and testimony presented. Particular emphasis must be given to the affidavit of Mr. Laitar which has been submitted, his pertinent deposition testimony, and the several memoranda prepared by Mr. Laitar which have been submitted, since it is Mr. Laitar's knowledge that is critical to the best mode inquiry. Having reviewed this evidence, the Court finds it beyond question that Mr. Laitar knew, at the time he filed the patent application, that the BASF polyisocyanate, as opposed to any other usable polyisocyanate compound, was the best for use in the invention. As Mr. Laitar stated in his affidavit: "Acme was testing, in March of 1983, an improved polyisocyanate manufactured by the German chemical company BASF Aktiengesellschaft. Plans were made in March of 1983 to switch to BASF as the source of polyisocyanate, and those plans were implemented over the next few months." Mr. Laitar had indicated in a memorandum dated December 2, 1982:

> A sample of less reactive polymeric isocyanate from BASF, Lupranite M-20S, was obtained. Acme Flow formulations made from this poly-

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[3] Specifically the "Description of Preferred Embodiments" states:

> A typical commercially available isocyanate is polymethylene polyphenylisocyanate such as PAPI-135 sold by Upjohn Co. and having a Brookfield viscosity of about 200 centipoises at 25°C, and an isocyanate equivalent of 134.

> meric isocyanate have better bench life and crusting properties than those made from lower acidity polymerics. This was found to be the case for both room temperature and elevated temperature and humidity tests. . . . Should the bench life properties continue to show the same improvement, this material would be the preferred polymeric isocyanate for Acme Flow formulations.

In a subsequent memorandum dated January 31, 1983 Mr. Laitar further indicated that he had tested the BASF polyisocyanate M-20s and found it to give approximately twenty percent improvement in bench life. Finally, at his deposition Mr. Laitar testified in a manner consistent with these memoranda:

> Q. Through that [the BASF polyisocyanate M20s] material's use did you obtain increased bench life?
>
> A. The M20s had slower curing properties than the regular M20 material or the—or comparable functionality and viscosity polymeric isocyanates.
>
> Q. And that led to enhanced bench life properties; is that correct?
>
> A. It was an assist, yes, in improving bench life, yes.
>
> Q. Did you obtain bench life improvements in the range of 20 percent by the use of that material?
>
> A. Again, it would depend on the particular conditions that it were tested under.
>
> Q. Under some conditions do you recall such an increase?
>
> A. That could be an approximate number, yes.

Accordingly, although it appears that it was not until shortly after the patent application was filed that Acme switched to the BASF polyisocyanate for its own commercial use, plans to switch to the BASF material were made prior to the application, and prior to the application Mr. Laitar, the inventor, knew that the BASF polyisocyanate was the best for use in his invention. The date on which Acme ultimately approved the BASF material for commercial use is, as defendant correctly points out, irrelevant to the question of what Mr. Laitar knew at the time the application was filed.

Furthermore, the Court finds nothing in plaintiff's supplemental memorandum to alter the conclusion that Mr. Laitar obtained better results with the BASF polyisocyanate, and thus that prior to filing the application he contemplated use of the BASF polyisocyanate as the best mode of carrying out his invention. As Ashland correctly notes, Mr. Seeney's opinion regarding the use of the BASF polyisocyanate to improve bench life is irrelevant, since the critical factor in the best mode inquiry is what was in the mind of the inventor, Mr. Laitar, and what he contemplated as the best mode of practicing his invention. Although the Court will grant plaintiff's motion for leave to file its supplemental memorandum in view of Mr. Seeney's deposition, Mr. Seeney's deposition does not alter Mr. Laitar's testimony regarding the latter's experimentation and conclusion on the use of the BASF polyisocyanate. At best, Mr. Seeney's deposition testimony may raise some question as to whether or not use of the BASF polyisocyanate would, in fact, produce better results in terms of bench life extension, although Mr. Seeney was apparently not asked specifically about the BASF material. However, whether the BASF polyisocyanate is as a matter of fact the "best" is not the issue, since it is well established that "[t]he patentee need not disclose the 'optimum' mode of carrying out the invention, nor must he disclose a better method, if he does not know of it." *Coal Proc-*

essing Equip., Inc. v. Campbell, 578 F. Supp. 445, 461 (S.D. Ohio 1981) (citing *Plastic Container Corp. v. Continental Plastics of Oklahoma, Inc.*, 607 F.2d 885, 897 (10th Cir. 1979), *cert. denied*, 444 U.S. 1018 (1980)). Furthermore, the fact that Mr. Seeney was not aware of a potential twenty percent improvement in bench life from use of the BASF material lends additional support to defendant's argument that Mr. Laitar should have disclosed the BASF material as part of the best mode of practicing the invention.

The other argument set forth in plaintiff's supplemental memorandum is that any twenty percent improvement in the use of the BASF polyisocyanate would be trivial when compared to the twelve-hundred percent improvement realized from the overall use of the invention. Since this is an argument that could have been raised on several prior occasions, and since it appears completely unrelated to Mr. Seeney's deposition testimony, the Court is not inclined to consider this portion of plaintiff's supplemental memorandum. However, even if the Court were to consider the argument, the Court would find that it lacks merit. Although by using the organic phosphorus additive pursuant to Mr. Laitar's invention a very significant improvement in bench life is achieved, this does not detract from the fact that, in Mr. Laitar's contemplation, using in conjunction with the organic phosphorus additive the BASF polyisocyanate, as opposed to just any commercially available polyisocyanate, maximizes that improvement.

In view of Mr. Laitar's testimony, it is clear that the only conclusion which can be drawn is that Mr. Laitar knew prior to the filing of the patent application that use of the BASF M20s polyisocyanate produced the best results in terms of bench life extension. Mr. Laitar contemplated using the BASF polyisocyanate as the best mode of carrying out his invention, and thus he was required to disclose it. His failure to disclose the BASF polyisocyanate component in the patent application constituted

concealment of his preferred mode from the public and violated the best mode requirement of 35 U.S.C. § 112, and for this reason the '881 patent is invalid.

CONCLUSION

Plaintiff's motion for leave to file a supplemental memorandum is GRANTED, and plaintiff's supplemental memorandum shall be filed, but same shall be considered by the Court under the limitations previously addressed in this order. Defendant's May 18, 1990 motion for summary judgment is DENIED. Defendant's September 6, 1990 motion for summary judgment is GRANTED. The Court certifies that there is no just reason to delay entry of judgment on plaintiff's claim of infringement of the '881 patent, and therefore the Clerk is directed to enter judgment for defendant on plaintiff's complaint.

IT IS SO ORDERED.

John D. Holschuh, Judge

John D. Holschuh, Judge
United States District Court

United States Court of Appeals for the Federal Circuit

91-1253

ACME RESIN CORPORATION,
Plaintiff-Appellant,

v.

ASHLAND OIL, INC.,
Defendant-Appellee.

JUDGMENT

ON APPEAL from the U.S. District Court for the Southern District of Ohio in CASE NO(S). C-2-86-187

This CAUSE having been heard and considered, it is

ORDERED and ADJUDGED:

AFFIRMED.

ENTERED BY ORDER OF THE COURT

DATED: JAN 30 1992 /s/ Francis X. Gindhart
Francis X. Gindhart, Clerk

ISSUED AS A MANDATE: February 20, 1992

United States Court of Appeals for the Federal Circuit

91-1253

ACME RESIN CORPORATION,
Plaintiff-Appellant,

v.

ASHLAND OIL, INC.,
Defendant-Appellee.

DECIDED: January 30, 1992

Before MAYER, *Circuit Judge*, SMITH, *Senior Circuit Judge*, and MICHEL, *Circuit Judge*.

MICHEL, *Circuit Judge*.

DECISION

Acme Resin Corporation appeals the summary judgment of the United States district court in favor of Ashland Oil, Inc. in Acme's patent infringement action against Ashland. *Acme Resin Corp. v. Ashland Oil, Inc.*, No. C-2-86-0187 (S.D. Ohio March 15, 1991). The district court held Acme's U.S. Patent No. 4,436,881 ('881) invalid for failure to disclose the best mode of practicing the claimed invention as required by 35 U.S.C. § 112 (1988). Because there is no genuine issue concerning the inventor's knowledge of a better mode of practicing the invention, a foundry resin composition, at the time he filed his patent application or whether he concealed the best mode when he only disclosed a less effective chemical component, we *affirm*.

DISCUSSION

Ashland moved for summary judgment on the ground that the patentee, Mr. Robert A. Laitar, failed to disclose the best polyisocyanate component of his invention, a foundry resin composition with two basic components and an additive. Ashland alleged that Mr. Laitar knew at the time he filed his patent application in June 1983 that the best polyisocyanate component was BASF M20S. Acme, on the other hand, asserts that it was not known until later that BASF M20S was a better polyisocyanate component than what was disclosed in the patent application.

I. Governing Law

Summary judgment is appropriate where "there is no genuine issue as to any material fact" and "the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). As the Supreme Court explained in *Anderson v. Liberty Lobby, Inc.*, a court must consider the "materiality" of any facts in dispute and determine if the dispute is "genuine." 477 U.S. 242, 248 (1986).

"As to materiality, the substantive law will identify which facts are material. Only disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment." *Id.* The substantive law on best mode requires an inquiry into: (1) whether the inventor knew of a better mode of practicing the claimed invention, and if he did, (2) whether he concealed the better mode. *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 927-28, 16 USPQ2d 1033, 1036-37 (Fed. Cir. 1990). As this court stated in *Chemcast*, "[t]he best mode inquiry focuses on the inventor's state of mind as of the time he filed his application." *Id.* at 926, 16 USPQ2d at 1035. Because the "disputed" fact in the instant appeal concerns whether Mr. Laitar knew of a better component at the time he filed his patent

application, it is clearly material. Indeed, it is near dispositive of the validity of the patent.

As to the genuineness of the dispute, we must determine "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Anderson*, 477 U.S. at 248. After a careful review of the record on appeal, we conclude that the asserted dispute is not genuine because a reasonable jury could not return a verdict for Acme, the nonmoving party. The evidence conclusively establishes that Mr. Laitar knew of a better mode of practicing the claimed invention at the time he filed his patent application. Indeed, there is *no* evidence, only argument, pointing in the other direction.

II. Knowledge

The summary judgment evidence consists of an affidavit prepared by Mr. Laitar, his deposition testimony, and his monthly lab reports to his supervisor. In his affidavit, Mr. Laitar stated: "Acme was testing, in March 1983, an *improved* polisocyanate manufactured by the German chemical company BASF Aktiengesellschaft. Plans were made in March of 1983 to switch to BASF as the source of polyisocyanate, and those plans were implemented over the next few months." Joint Appendix at 338 (emphasis added). Because the patent application was not filed until June 1983, this statement alone strongly suggests that Mr. Laitar knew of a better mode of practicing the claimed invention at the time he filed his patent application. He knew in March that the better part II component was the German chemical. How long it took for the company to implement that knowledge and whether implementation was completed before the filing date are legally irrelevant.

Even earlier, in a January 31, 1983 report, Mr. Laitar indicated that he knew BASF M20S was a better polyisocyanate component:

> Evaluation of M-20S inhibited polymeric isocyanate from BASF has continued to show promise. 2048 formulations made from this polymeric have been tested on Chevy G.I. and Ford Essex sand and in both cases gave [approximately] 20% improvement in bench life and a larger improvement in crusting resistance.

Id. at 601. Mr. Laitar later confirmed the obvious import of this language in his deposition testimony. During Mr. Laitar's deposition, he was questioned about the January 31 1983 report as follows:

> Q. I note that in the second paragraph there is reference to an evaluation of the BASF M-20S isocyanate with 2048. And there it gave a bench life improvement of approximately 20 percent; is that not correct?
>
> A. Yes.
>
> Q. And a larger improvement in crusting resistance; is that correct?
>
> A. Yes.

Id. at 469. In that same deposition Mr. Laitar was also asked generally about the BASF M20S material:

> Q. Through that material's use did you obtain increased bench life?
>
> A. The M20S had slower curing properties than the regular M20 material or the—or comparable functionality and viscosity polymeric isocyanates.
>
> Q. And that led to enhanced bench life properties; is that correct?
>
> A. It was an assist, yes, in improving bench life, yes.

Q. Did you obtain bench life improvements in the range of 20 percent by the use of that material?

A. Again, it would depend on the particular conditions that it were tested under.

Q. Under some conditions do you recall such an increase?

A. That could be an approximate number, yes.

Id. at 468-69. These statements conclusively prove that Mr. Laitar knew of two improved properties from using BASF M20S several months before his patent application was filed. Moreover, bench life and crusting resistance were well-known problems in the foundry resin composition art and could not be considered insignificant.

Mr. Laitar had been experimenting for just such improvements. In a December 2, 1982 report, he stated:

> A sample of less reactive polymeric isocyanate from BASF, Lapronite M-20S, was obtained. Acme Flow formulations made from this polymeric isocyanate have better bench life and crusting properties than those made from lower acidity polymerics. This was found to be the case for both room temperature and elevated temperature and humidity tests. . . . Should the bench life properties continue to show the same improvement, this material would be the preferred polymeric isocyanate for Acme Flow formulations.

Id. at 479. As reported in subsequent months, further tests did confirm M20S as causing the "same improvements."

Indeed, in the proceedings before the district court, Acme conceded that "the test data that had been amassed before the patent application was filed did show the BASF material to be better." *Id.* at 558. When asked by Judge Holschuh why this did not give rise to an obligation for

the inventor to disclose it, Acme stated that "the nature of the isocyanate had nothing to do with the invention." *Id.* Likewise, Acme argued on appeal that it is not required to disclose the best polyisocyanate component because Mr. Laitar's invention was not directed to the polyisocyanate component but merely to a phosphorus additive for a well-known prior art composition of which the polyisocyanate component was only a part. This argument has no merit for it misapprehends the requirements of the case law on best mode.

The best mode requirement of 35 U.S.C. § 112 applies to the "*claimed invention.*" *Randomex Inc. v. Scopus Corp.*, 849 F.2d 585, 588, 7 USPQ2d 1050, 1053 (Fed. Cir. 1988) (emphasis in original). Claims 6, 17, and 28 of the '881 patent each specifically further limit the polyisocyanate component set forth in the respective independent claims from which they depend. As clearly part of the claimed invention, the best chemical for the polyisocyanate component had to be disclosed. In view of what he claimed, Mr. Laitar's subjective view as to the scope of his invention is legally irrelevant.

Consequently, Acme's admission that the pre-filing test data showed BASF M20S to be a better polyisocyanate might alone be dispositive. But, like the district court, we have much more to go on. Mr. Laitar's statements in his affidavit, in his deposition testimony, and in his monthly reports unquestionably establish that there is no genuine issue of fact whether Mr. Laitar knew of a better mode of practicing the invention. They show that not later than March, he knew the German chemical was best.

We note that all the evidence Ashland relies on to show that there is no genuine issue of fact are statements by Acme's Mr. Laitar. This is not a case where Ashland's evidence points in one direction and Acme's points in the other, but where Acme's evidence itself establishes the conclusion Ashland espouses. It is also suspect that no-

where in his affidavits, depositions, or reports did Mr. Laitar assert that he did not realize BASF M20S was better or that he did not know it was better until after he filed his patent application. Instead, his statements all indicate that the decision was made to switch to that formulation months prior to filing because it had consistently showed improved properties in repeated tests. Accordingly, the district court properly concluded that the record evidence does not present a genuine issue of fact whether the inventor knew of a better mode of practicing the claimed invention at the time he filed than he disclosed in his patent application.

III. Concealment

Having concluded that the inventor knew of a better mode, it then becomes necessary to determine whether the evidence establishes that the inventor concealed it. *Chemcast*, 913 F.2d at 928, 16 USPQ2d at 1036-37. "[W]hether the inventor concealed a better mode of practicing his invention than he disclosed, is a function of not only what the inventor knew but also how one skilled in the art would have understood his disclosure." *Id.* at 927, 16 USPQ2d at 1036. A test for determining whether the inventor has concealed the preferred mode is whether "the disclosure [is] adequate to enable one skilled in the art to practice the best mode." *Id.* at 928, 16 USPQ2d at 1036.

It is undisputed that BASF M20S was not disclosed in the patent. And as set forth *supra*, there is no genuine issue of fact that Mr. Laitar knew that BASF M20S was better than the polyisocyanate that was disclosed in his patent application, *i.e.*, PAPI-135 made by Upjohn Co. The district court found that "[Mr. Laitar's] failure to disclose the BASF polyisocyanate component in the patent application constituted concealment of his preferred mode from the public and violated the best mode requirement of 35 U.S.C. § 112." Slip op. at 27. Acme has not shown this finding to be clearly erroneous and has not pointed to

anything in the record that creates a genuine issue of fact whether the disclosure of PAPI-135 as the preferred polyisocyanate component is adequate to alert one of ordinary skill in the art instead to use BASF M20S, as contemplated by the inventor. Indeed, it is difficult to conceive how disclosing by name a less effective polyisocyanate could enable the artisan to know he should use another more effective one that was not named. Only if the latter's better properties were widely known might this be so. There is no such evidence here. Accordingly, the district court's finding of concealment and conclusion that there is no genuine issue about this, both must stand.

Acme argues that it did not approve BASF M20S for commercial sales until July 1983, almost one month after filing the patent application, and thus did not know that BASF M20S was better until after filing the patent application. However, the date Acme officials decided to commercialize the best mode is irrelevant. The relevant inquiry is the date Mr. Laitar, the inventor, knew that BASF M20S was the better mode. Mr. Laitar's affidavit, deposition testimony, and monthly reports show "beyond question," *id.* at 23, that he knew that BASF M20S was the better mode prior to filing, *i.e.*, not later than March 1983.

Acme also argues that because a best mode determination necessarily involves a factual inquiry into the inventor's state of mind, summary judgment is *per se* improper. This argument ignores the fact that, in this case, the inventor's state of mind was contemporaneously reduced to writing. Mr. Laitar's monthly reports to his supervisor track his evolving state of mind with respect to the effectiveness of BASF M20S. The argument also ignores that nothing in our case law generally precludes disposition of the best mode question on summary judgment where there are no genuine issues of material fact. *See Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1580, 18 USPQ2d 1001, 1013 (Fed. Cir. 1991) (disposing of best mode issue on summary judgment).

Finally, Acme argues that the bench life improvement of the additive component of their resin composition was ten times greater than that achieved by using BASF M20S as the part II component rather than the chemical disclosed. Besides ignoring the improvement in crusting resistance from using M20S, this argument ignores that the part II component is expressly part of the claimed invention. Our case law requires disclosure of the known best mode for practicing all parts of the invention as applicant himself chose to claim it. That was clearly not done here.

FILED
U.S. COURT OF APPEALS FOR
THE FEDERAL CIRCUIT

MAR 17 1992

FRANCIS X. GINDHART
CLERK

ORDER

Before MAYER, Circuit Judge, SMITH, Senior Circuit Judge, MICHEL, Circuit Judge.

A petition for rehearing having been filed in this case,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, denied.

The suggestion for rehearing in banc is under consideration.

FOR THE COURT,

/s/ Francis X. Gindhart
Francis X. Gindhart
Clerk

Dated: March 17, 1992

cc: FRANK E. ROBBINS
BRUCE TITTEL

ACME RESIN CORP V ASHLAND OIL INC, 91-1253
(DCT - C-2-86-187)

FILED
U.S. COURT OF APPEALS FOR
THE FEDERAL CIRCUIT

APR 22 1992

FRANCIS X. GINDHART
CLERK

ORDER

A suggestion for rehearing in banc having been filed in this case, and a response thereto having been invited by the court and filed,

UPON CONSIDERATION THEREOF, it is

ORDERED that the suggestion for rehearing in banc be, and the same hereby is, declined.

FOR THE COURT,

/s/ Francis X. Gindhart
Francis X. Gindhart
Clerk

Dated: April 22, 1992

cc: FRANK E. ROBBINS
BRUCE TITTEL

ACME RESIN CORP V ASHLAND OIL INC, 91-1253
DCT - C-2-86-187